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ABSTRACT

One of the biggest challenges facing distance education programs is attrition. One potential way of reducing attrition is to foster a sense of community among students. Students who are emotionally and intellectuality invested in each other and in their program are more likely to prosper in a multi-year distance program. This paper briefly explores those effects ascribed to community that are assumed to be crucial for distance education programs to succeed, and then focuses on a theoretical framework knows as the Psychological Sense of Community (PSOC). From this basis the communication between graduate students in a distanced education cohort is explored to see how well the PSOC can be applied to this environment. The paper concludes that the psychological sense of community, as defined in McMillan and Chavis' (1986) model, appears to be a meaningful, well-established and powerful tool for the rigorous investigation of community. The model offers a lens through which to explore how a group of students perceives itself. Application of the sense of community to qualitative methods is in its infancy, but this model lends itself well to this type of investigation. Future work will help determine if the model is able to offer insight into real-world applications of course design and structures that may, in turn, affect attrition rates and student satisfaction. (Contains 50 references.) (Author/AEF)

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Formation of Community in a Distance Education Program

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Abstract

One of the biggest challenges facing distance education programs is attrition. One potential way of reducing attrition is to foster a sense of community among students. Students who are emotionally and intellectually invested in each other and in their program are more likely to prosper in a multi-year distance program. This paper briefly explores those effect ascribed to community that are assumed to be crucial for distance education programs to succeed, and then focuses on a theoretical framework knows as the Psychological Sense of Community (PSOC). From this basis the communication between graduate students in a distanced education cohort is explored to see how well the PSOC can be applied to this environment.

Introduction

The advent of the World Wide Web has brought with it a massive proliferation of distance education options, many of them based around extensive online communication. Unlike the correspondence courses that preceded them, this new brand of distance education features opportunities for student-student and student-teacher interaction. Many are also built on a different economic model; a full degree program may take several years, requiring a long-term commitment between the student and the offering institution.

Modern pedagogical models encourage the use of group work, learning communities and cohorts to help prepare students for a work world in which teamwork plays an important role. Implemented as a distance education option, this model requires a robust technology infrastructure and intensive faculty involvement — requirements that have a significant economic impact. A program that experiences high attrition (for example, starts with 20 students and ends up with only 3 at the end of a 3-year degree program) will quickly become a monetary sinkhole as course design, development, and faculty interaction time is subsidized by fewer and fewer students.

With both pedagogy and attrition in mind, many scholars have begun to focus on creating community, particularly "learning communities." Unfortunately, the terms are often vaguely defined. How does one know to what degree community is present? What positive attributes can we ascribe to such a community if it does exist?

This paper briefly explores those effects ascribed to community believed to be crucial for distance education programs to succeed, and then focuses on a specific theoretical framework, the Psychological Sense of Community (PSOC), that seeks to define community. From this basis, the communication between graduate students in a distance education cohort is explored to see how well the PSOC can be applied to this environment.

Review of the Literature

Distance education and attrition

Among the challenges faced by those implementing a distance education program — poorly understood technology, high demands on faculty time, and growing competition — perhaps the most significant challenge comes in the form of attrition. Reports of attrition rates at the course level in distance education vary wildly from study to study but are generally higher than on-campus courses (Dille & Mezack, 1991; Kember, 1995).

Isolation, "the state where one's achieved level of social contact is lower than one's desired level of contact" (Altman, 1975), is one of the most prevalent reasons given for dropping out of distance education courses (Morgan & Tam, 1999). Cut off from in-class as well as serendipitous encounters with their classmates and instructors, students lose the sense that they belong to something (Morgan & Tam, 1999; Want & Grimes, 2000).

Attrition can potentially be addressed through the formation of a learning community, specifically by engendering in students feelings of belonging. Of course, feeling isolated is not the only factor influencing student drop-out (Brown, 1996; Nippert, 2000; Want & Grimes, 2000), but belonging to a community seems to serve both the student and the institution by reducing such feelings and hence attrition (Haythornthwaite, Kazmer, Robins, & Shoemaker, 2000; McCarthy, Pretty, & Catano, 1990; Morgan & Tam, 1999; Palloff & Pratt, 1999). Encouraging a sense of community, then, offers us a way to address the issue of retention.

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Community and attrition

Lack of community is linked with two student attributes associated with attrition: student burnout (McCarthy et al., 1990) and feelings of isolation (Haythornthwaite et al., 2000). McCarthy et al. (1990) note that undergraduates who experience a strong psychological sense of community in their living environment reported lower burnout on the Meier Burnout Assessment and the Maslach Burnout Inventory, compared to students who did not. They suggest that programs and interventions to prevent or decrease burnout should focus not simply on individual students (such as improving their coping skills), but the college community itself. Haythornthwaite et al. (2000) found that students who do not make connections with their classmates at a distance "report feeling more isolated and stressed than those who are more active; exchanges with other students become vital for validating their experiences and for overcoming isolation" (p. 1).

Learning communities and virtual communities

The notion of a community of learners has been gaining currency in various educational fields for a number of years. Similar in many respects to Lave and Wenger's (1991) community of practice, a community of learners, or learning community, can take a number of forms and can fulfill a variety of needs. This term has become a buzzword applied to almost any educational or workplace group, especially with respect to online or virtual communities. While there is a wide variety of research focusing on such learning communities, many (Baker & Moss, 1996; Bielaczyc & Collins, 1999; Boehmer & Waugh, 1997; Brower & Dettinger, 1998; Cross, 1998; Hill, 1985; Lawrence, 2000; Pike, 1997; Shapiro & Levine, 1999; Wilson & Ryder, 1996) seem to accept the term at face value without attempting to rigorously define the characteristics that differentiate a true learning community from any other class. Others describe characteristics of community, but do not offer a way to evaluate presence or level of community (Bauman, 1997; Bruckman, 1996; Cox, 1997; Donath, 1999; Everhart, 1999; Kim, 2000; Kollock & Smith, 1999; Preece, 2000; Schwier, 2001; Selznik, 1996; Wellman & Guila, 1999a) .

Linked to this question of how to evaluate the existence and effectiveness of community are the ways in which researchers view community. The preponderant method is to establish a list of characteristics indicating the presence of community. Using these characteristics as a lens, the researcher then looks for indicators of those characteristics in the available data, and determines whether (or to what extent) the group is a community (see, e.g., Kim, 2000; Schwier, 2001; Selznik, 1996; Wenger, 1998).

Another way to define community is through its structure. Social network theory uses relationships among people (as defined by "weak" and "strong" ties and relations) to determine a person's social network (Wellman, 1979, 1999; Wellman, Carrington, & Hall, 1988; Wellman & Guila, 1999a, 1999b). To define virtual community by interaction, a researcher determines what kinds of exchanges are occurring among classmates, how regular and frequent they are, what the tone and level of intimacy are, and what the potential topics are (e.g., "work-related" or "friendship"-based). These data are used to create maps of how the students interact, allowing the researchers to derive models of how information and other resources flow through the group.

The methods and models referenced above focus on determining whether or not a group of people exhibits externally defined indicators of community. Puddifoot (1996) calls into question such quantification: "It is not apparent whether community identity can be established in any empirically objective way, or indeed whether this should even be the goal" (Puddifoot, 1996, p. 328). There is a construct, well known in the community psychology literature, of "psychological sense of community" (PSOC) (Glynn, 1981; McMillan, 1976; McMillan & Chavis; 1986, McMillan, 1996). Simply put, this is the individual's perception of whether or not she belongs to a community, and it is this construct that forms the basis of our investigation.

McMillan & Chavis' Psychological sense of community

In their seminal 1986 article, McMillan and Chavis sought to describe a sense of community and offered four criteria necessary for any acceptable definition. Any definition, they said, must be explicit and clear. It must be concrete, with its parts identifiable. Finally, say McMillan and Chavis, it must represent the "warmth and intimacy implicit in the term;" (p. 9) and provide a dynamic description of the development and maintenance of the experience. Their model has formed the basis of much of the work done in the field of community psychology, but has not had a noticeable impact in the world of education.

The PSOC, as its name implies, is based in the idea that many of the benefits ascribed to community come from an internal sense of community, irrespective of any externally-observable characteristics about the group in

question. While designed with place-based neighborhoods in mind, McMillan and Chavis assert that their definition of sense of community will apply equally to both place-based and non-place-based communities.

The model entails four elements (Membership, Influence, Needs, and Emotional Connection), each of which has a series of sub-characteristics. These elements, shortened to the acronym MINE throughout the rest of this paper, are described in detail below.

Membership

Membership deals not only with who is in or not in a community, but with the sense of safety that accompanies such delineation. The ability to identify another member of a community allows one to better determine how to spend resources and with whom to feel comfortable. Integral to the idea of membership is the concept of boundaries. It is perhaps just as important to know who is not in the community as it is to know who the members are.

Boundaries can be created and enforced in many ways, including a group's use of language, styles of dress, and rituals. Gang members, for example, are able to tell at a glance if they are facing a friend or foe by looking at the person's colors. In this case, even more than most, the creation and maintenance of boundaries, as demonstrated by dress or rites, is a protection against external threat. Similarly, a common symbol system aids in creating and maintaining group boundaries. These symbols combined create a social convention that again delineates the "us" versus "them." Symbols may operate at the group level (black leaders using Black Power and clenched fist), the neighborhood level (name, landmark, logo, architectural style), or national level (holidays, flag, language, currency).

Safety, especially emotional safety, is embodied in the idea of security in one's community. Established boundaries provide structure and security, protecting group intimacy. In many cases, such support is emotional in nature, but in the case of gangs or warring factions, the security is physical; for collectives and cooperatives, the security can be financial.

The expectation that one fits the group and is accepted by the group is a sense of belonging and identification. The member feels he has a place there, and is willing to make sacrifices for the group. The member identifies with the group, which is reflected in reciprocal statements such as "This is my group" or "I am part of this community."

Personal investment also contributes to an individual's feeling of group membership and feelings of belonging. McMillan (1976) asserted that working for membership will provide the feeling that one has earned a place in the group, and that consequently, this personal investment will make the membership more valuable.

Influence

Influence is the second overarching element of the psychological sense of community. Influence is bi-directional: in order to be attracted to the group, an individual must have the potential of influencing the group. The reverse case — the ability of the group to influence its members — is crucial to maintaining cohesiveness. These seemingly opposite forces do appear to work simultaneously, indeed, in concert. Note that influence often operates independently of positions of authority.

An important aspect of influence is the idea of consensual validation, which assumes that "people possess an inherent need to know that the things they see, feel, and understand are experienced in the same way by others" and people will go to great psychological and emotional lengths to reassure themselves that they are not crazy (McMillan & Chavis, 1986, p. 11). One cause, then, of group conformity, is the pressure on the individual to experience harmony with the group's world view. Again, this pressure can move from the individual into the group as well as being imposed by the group on the individual, so that the group is "operating to consensually validate its members as well as to create group norms" (McMillan & Chavis, 1986, p. 11).

Integration and fulfillment of needs

The third element of the psychological sense of community is the integration and fulfillment of needs, most commonly encompassed by issues of reinforcement. Obviously, the individual's association with the group must be rewarding for the members. In many cases, a reinforcing element is just the status of being a member of that group. The benefit of being a member of the "in crowd" is simply association with that group.

Communities are also strengthened by group accomplishments. Simply stated, successes associated with group activities bring members closer together. McMillan and Chavis assert that competence is personally attractive and that people will gravitate towards groups and other people that offer the most reward.

A third way in which need fulfillment is given direction is through the concept of shared values. People with shared values come together and find they have similar goals, priorities, and needs, and is more easily able to focus resources on issues that speak to those values. This encourages the belief that, as a group, they are better able to fulfill their needs in a continual, mutually-beneficial way. In this case, it is shared values that act as an "integrative force for cohesive communities" (p. 13). Note, however, that a group with a strong sense of community in which members do not necessarily have identical goals and priorities will still work together to fulfill all members' needs.

Shared emotional connection

The final component of the psychological sense of community is a shared emotional connection, which is based, in part, on a shared history. McMillan and Chavis point out that it is not necessary that all group members have participated in the history in order to share it, but they must identify with it.

To share a connection with others, of course, presupposes interaction with them. The "contact hypothesis" asserts that the more people interact, the more they are likely to become close. The quality of interaction is also important, in that positive experiences create greater bonds; as was noted earlier, group success creates cohesion.

Sharing emotional events is crucial in creating a sense of connection. The "shared valent event hypothesis" states that the more important the shared event is to the people involved, the greater the community cohesion. Groups who survive a crisis together feel an increased bond (e.g., war veterans). Closure to events is an important part of community unity; if the group's tasks are unresolved and interaction is ambiguous, the cohesion will suffer.

Investment in the c mmunity "determines the importance to the member of the community's history and current status" (McMillan & Chavis, 1986, p. 14). People who expend time and energy on projects will feel more emotionally involved in their outcome.

Finally, various types of intimacy affect the shared emotional connection. Intimacy is a type of investment: the emotional risk one takes with other members of the group can affect (and be affected by) one's sense of community.

Applying the PSOC framework

Working from this theoretical base, Chavis, Hogge, McMillan & Wandersman (1986) took these four major categories and used them to derive an instrument to measure PSOC in an individual, the Sense of Community Index (SCI).. The SCI, and hence the PSOC, have been used to describe both place-based (geographical, e.g. a neighborhood) and non-place-based (relational, e.g., an ethnic group) communities. McCarthy (1990) and Pretty (1990) validated the SCI for the undergraduate university community. Pretty has used the instrument in both the corporate world (1991) and with adolescents (1994).

In 1996, Sonn (1996) developed an "open response format interview schedule" to asses the four elements of the sense of community framework, then conducted semi-structured interviews (lasting 25-50 minutes) with 23 participants (p 420). He then used the elements of the psychological sense of community to frame themes emerging from the interview data, providing evidence that the PSOC model has construct validity in this environment.

Despite its preponderant use in the field of community psychology, only a single reference to this model in education was found: dissertation work by Chao (1999). In the next section, use of the theory underlying the PSOC to examine communications among members of an online distance education program is discussed.

Methods

Context

The research proposed focuses on a particular program, a master's degree in educational technology offered by a large, Midwestern university. The Education Technology Online Master's (ETOM) is a three-year, cohort-based program designed to give working professionals an opportunity to earn an M.S. in educational technology. The overriding concerns center on (a) the ability to maintain high standards of academic quality at a distance in a highly accessible format, and (b) economic feasibility and sustainability of the program.

The ETOM seeks to build on the success and structure of the on-campus master's progra m, while taking into account the needs of full-time employees. The coursework is essentially the same as that on campus; project-

based with a great deal of group work, some individual development projects, a substantial amount of writing, and a mastery-based assessment process. These characteristics are considered essential by the faculty of the department, and frame the challenges of a distance program along both pedagogical and economic dimensions.

The ETOM is set up as a cohort; each group of students will travel through the three-year program together. While not all students will take all the same courses, the required courses will be taken with the same group of people in an effort to instill a sense of community and trust.

Participants

Participants for this study are distance students drawn from the online master's program previously described. Researchers received permission to view postings and chat transcripts from 15 of the 16 students in the cohort.

All participants hold full-time jobs, their positions split roughly equally among K–12, higher education, and the corporate world. Geographically, they are spread across three time zones. They range in age from 25 to 55. Nine of the seventeen are women. As individuals who chose to pursue an online degree in educational technology, these students all had above-average technical skills.

Data sources and collection

All data collected were the products of a one-semester online course offered during the Fall 2000 semester. Data were collected primarily from two sources. First is a series of online chats that took place throughout the semester, held most Wednesday nights at 8:00 and lasting between 1.5 and 2 hours. These weekly chats were the only scheduled "real-time" interaction the students had with the instructor, and were designed to give the students access to the professor to discuss issues surrounding the content, assignments, and due dates.

Attendance at the chats (after an initial time-zone mix-up) was excellent at the beginning of the semester and grew spottier as time went on. Roughly two-thirds of the way through the semester the instructor discontinued these whole-group chats because so few people were attending. They were reinstated at the request of a vocal minority, and attendance for the rest of the semester hovered around 7-8, or half the students. In total, there were 11 chat sessions comprising over 1000 separate entries.

The second source of data was asynchronous postings to the whole-group spaces of the course's web-based conferencing system. These were open throughout the semester, but the vast majority of the almost 200 postings in the conferences took place in two distinct threads dealing with end-of-project "lessons learned". All these data were collected from the electronic systems and reformatted for easier reading and for import into nVivo™.

Data analysis

Data analysis began with an examination of transcripts from both the asynchronous conference and the real-time chats. Each entry was examined (in context) for communication beyond simple task-oriented interaction; these were assigned a low-level code to denote the type of utterance.The unit of analysis, then, was not specifically limited to a whole phrase or even sentence; units ranged in size from a short phrase to several sentences.

Data were coded until the list of codes stabilized (at about 29 of these low-level categories). The entire data set was imported into nVivo™ and coded by the researchers; codes were often merged or added to the list as necessary. Finally, already-coded data were re-checked to make sure the definitions of codes hadn't drifted during this process.

Since the concern of this study is the students' sense of community, all comments made by the instructor were ignored (although responses directed at the instructor were, of course, included). Also ignored were those comments that involved purely giving and receiving course-related information (e.g., asking the instructor to define a term), answering a simple, information-oriented question (such as "What were we supposed to read this week?"), and in general, those questions and the resulting exchanges that were so task-oriented as to give no insight into the community feelings codified in the MINE framework. The researchers' interpretation of McMillan and Chavis led to the conclusion that such purely functional transactions are of little value when looking for evidence of PSOC.

In the end, the original 29 codes had been modified and reduced to a list of 22 different types of comments that seemed to relate, in some way, to issues represented in the sense of community model driving the analysis. Armed with this list of codes, the researchers returned once more to the PSOC theory. Guided by McMillan and Chavis (1986), and with ideas further refined from McMillan (1996) and Chao (1999), the data were categorized

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into the four major components of PSOC (membership, influence, fulfillment of needs, or shared emotional connection). The full results of this categorization can be seen in tables 1 through 4.

Findings and interpretation

Of the original 200 posts in the asynchronous conference and almost 1000 comments made in the chats (together equating to roughly 120 printed pages), 187 utterances were coded into at least one of the 22 relevant categories. These broke down into the four MINE categories as indicated in each of the follo wing sections.

Membership

Themes Indicating Membership	Number
Indication this is a safe space	2
Offer of help /information without request	3
Shared symbol system	1
Basic verbal support	34
Humor of a personal nature	37
Reference by name	18
Member check	4
General question implying a request for support	2
TOTAL	**101**

Table 1: Themes indicating Membership

Membership subsumes ideas of boundaries, language, and other representations of a common symbol system, and a sense of belonging to the group and the emotional safety that comes from that group identification. These ideas manifested themselves in four broad categories.

In the case of this cohort, boundaries were artificially created and maintained by the enrollment structures. Only people enrolled in the program (and the professors and staff) had any contact with the group as a whole, so there was really no need to either delineate or enforce boundaries.

Working in an online format makes certain demands on students with respect to communication, but it also provides opportunities for the group to adopt certain shared symbols. The use of emoticons ("smilies," especially) was very common, and a few students had their own symbols that they attempted to share with the group (further discussed in the section on influence). With the exception of the construct "*see*" to indicate online presence ("I'll *see* you tomorrow"), non-standard symbols were not adopted by the entire group.

A few themes emerged that suggested that the students felt a certain degree of emotional and intellectual safety in the group. One student implied that she felt safe in the community and with respect to the instructor: "I can't believe I'm admitting this to the teacher, but I feel much better now that I've learned what I can ignore". One reason perhaps that people feel emotional safety in their group is that support is available. We infer that asking a question implying support: ("Is everyone surviving?") or giving basic verbal support ("I'll second that ;-)") demonstrates the feeling is that someone is available to provide the asked-for support. Thirty-four instances of basic verbal support were found. McMillan and Chavis claim that use of humor may also be an indication of emotional safety that shows the speaker is confident in her ability to connect with her peers on an emotional level. There were 37 uses of humor in the data set.

The feeling that one belongs and is accepted by the group can manifest itself in a few ways. Riger (1981) cites social bonding indicators that, for co-present communities, include the ability to identify neighbors and their children. In the studied environment this can be demonstrated by individuals' referring to each other by name ("Grace—I agree"). The use of names aids in feelings of belonging in that it creates intimacy. Students referred to each other by name 18 times.

Overall, more than 100 of the 187 coded utterances were related to the Membership dimension. This makes it by far the most often expressed aspect of community.

Influence

Themes Indicating Influence	Number
Voice minority opinion	9

Attempt to build/enforce symbol system	1
Ask for/give neutral/popular opinions	17
Ask for clarification	2
TOTAL	**29**

Table 2: Themes indicating Influence

As was mentioned previously, influence is bi-directional. Although individuals must have the potential to influence the group, the group's cohesiveness is contingent on its ability to influence members.

Although the role of an assigned instructor is different from that of an emergent an instructor can be considered an authority figure with whom structures (and hence influence over the class) can be negotiated. The bi-directionality of such influence was first illustrated at the face-to-face orientation. The instructor had mandated a Friday night due date for weekly assignments, but then noted that she wouldn't look at them until Monday. The students pointed out that most of the time they had free to work on the course was on the weekend, and so negotiated a Sunday night due date. This set the stage for later debates about due dates and assignments, immediately showing students that they had some power over the course and hence should be less hesitant to invest in the group.

While the existence and use of a shared symbol system is an indication of membership (via explicated boundaries), an attempt to create or enforce such a system is a matter of influence. Some students used acronyms and constructs common in online chat sessions, not all of which were taken up by the larger group. In one case, the student explicated her use of actions between asterisks to describe asides (e.g., *looks around for help*).This is way of expressing oneself that is standard and common in many chat rooms, but it was new to the students with more limited online communication experience and was never adopted by the rest of the group.

One of the most powerful indicators of influence is expressing a minority opinion. In this case, the speaker must take the risk of "going against the grain" and taking a stand opposite that of the group, or at least, the opinions expressed thus far. The level of risk perceived by the speaker is inherent in his preface to the divergent opinion: "If I could respectfully disagree and restate I believe them to be at least equal in a highly complex subject area." We found fewer than 10 examples of students expressing a minority opinion.

If expressing a minority or divergent opinion is a strong indicator of sense of community; a related indication of influence is trying to elicit or giving neutral or popular opinions: "Does everyone else agree with this view?"

A final indicator of influence that emerged from the data was when someone simply asked for clarification. This shows a willingness to be influenced by another individual: at the least, it indicates some level of investment in what the other person is expressing: "I'm intrigued by this question. Explain what you are thinking a little more."

Twenty-nine of the total utterances were related to influence. This represents roughly one-sixth of the total, and most of these were related to neutral or popular opinions.

Needs

Themes Indicating Integration and Fulfillment of Needs	Number
Ask for understanding or apologize	4
Request basic or immediate info	22
Exhibit experience/expertise	9
Express thanks	8
Be self-effacing/express doubts hoping for support	6
Express frustration	1
Request elaboration	1
TOTAL	**51**

Table 2: Themes indicating Integration and Fulfillment of Needs

According to McMillan and Chavis, an individual seeks out and maintains membership in a group because the group somehow fulfills his needs. Many of the utterances in this category are basically indicators of reinforcement and support, either expressing a need, or offering to fulfill another's need. For example, when someone asks for understanding or apologizes ("Sorry, I lost my connection") she is assuring the group of her continuing membership and indirectly requesting validation of the membership/relationship in spite of the error or violation.

On a more concrete level, some needs are not emotional in nature but are related to resources. As a member "in good standing" of a particular group, an individual has access to the expertise and intellectual resources of the group. It requires a certain level of emotional security within the group to ask for help ("I can't get the Participants

list to show anyone"), or to show unfamiliarity and ask for information that appears to be common knowledge: "I hate to admit my ignorance, but what is IRC?".

The other side of the needs fulfillment coin is the offer of help, either solicited or unsolicited. Volunteering useful information to the group — especially in the absence of a request for such information — fulfills a number of roles, including exhibiting experience or expertise that other members will find attractive: "Karl and I were looking at AOL, and think it will speed things up a little." It's also an indication that the speaker feels it is worth her time and effort to help out another member of the group. This could be an indication that the speaker believes mutual success is linked to helping behaviors.

Finally, there is the need for external validation of suffering: the desire to complain to someone who will understand. This powerful attribute of community is used explicitly in support groups and similar counseling situations, but is no less important to a group that occasionally needs a safe space and sympathetic ears for venting: "We were dying in our group chat!"

Fifty-one of the total coded utterances were related to fulfillment of needs. However, almost half of these were simple requests for basic information.

Shared emotional connection

Themes Indicating Shared Emotional Event/Connection	Number
References to orientation	2
Ask about shared history	2
Express happiness being part of group	2
TOTAL	**6**

Table 4: Themes Indicating Shared Emotional Event/Connection

With respect to shared emotional connection, we found three distinct themes: asking about shared history, expressing happiness at being part of the group, and making references to the pre-program orientation, the cohort's first shared event, and their only face-to-face event to date: "I think that [orientation] was real important for retaining people, keeping people on the program, so that they felt some sort of commitment now to this group."

Bonds, as they relate to shared experiences, seem to correspond to the level of emotion involved rather than whether or not the experience was a negative one. Shared positive experiences can create strong bonds, but an increased bond is also reported by groups who survive a crisis. In this case, the students experienced a 4-day face-to-face orientation that was intentionally structured to have a high-intensity "boot camp" feel. Students immediately got down to work, worked, ate, and lodged together, and had four very full days of togetherness and things they had to accomplish. The orientation fits into the shared valent event hypothesis, which states that the more important the shared event is to the people involved, the greater the community cohesion. The final indicator of a shared emotional connection is a student expressing happiness at being part of the group; there were two utterances on this theme. As can be seen in table 4, only six of the original 187 utterances spoke to the shared emotional connection.

Discussion

As can be seen from the four tables, not only was there little evidence of PSOC in general (only 187 coded utterances in over 120 pages of text), but these did not represent all four areas of community well. The data show a paucity of evidence of a shared emotional connection (only six examples), and more than half of these coded passages spoke to issues of membership.

Perhaps more important, the majority of these utterances are in forms that could be easily construed as not indicating community so much as polite conversation. Roughly half of the coded data refers to three items: humor, giving basic verbal support, and simple questions asking for simple information. While these items certainly represent their respective characteristics of community, they seem to be in a form that could be incorporated into the pattern of conversation, mitigating their power as indicators. It is also the default for people who don't know each other well, who don't feel safe with each other, and who treat each other as strangers.

Given these findings—lack of coverage and the prevalence of coded items that may be primarily indicative of simple etiquette—we are hesitant to speak about any substantial sense of community in this group. The discussions studied had a task focus, lacking many of the social cues one would expect to see in a group with a high PSOC. Why was there so little evidence of community? While there are various limitations to the study (discussed below) that could account for the failure to find an existing community, the first and most obvious explanation is that substantial evidence of community simply isn't there to be found. Another issue may be the timeline — one

semester. While some articles speak about developing community within the span of a single course (Eastmond, 1995; Hill & Raven, 2000) it simply may not be long enough using this type of analysis.

As indicated, there was also a noticeable focus purely on the tasks under discussion. This is partially an outcome of the communications available for analysis. Given a limited time in which students could discuss course assignments and feedback with the instructor, it is not surprising that little of it would be spent providing the social cues and debates that would indicate PSOC.

Limitations

This study uses "found data" — data collected after the course and analyzed long after its creation. While there are complete transcripts of the chat sessions and the contents of the asynchronous discussion, the data were analyzed without the insight into changing tensions and attitudes that analysis during the course itself may have provided. A future study will take place concurrently with the course itself, allowing for the exploration of issues as they arise.

This study also suffers from limited data access. While we had full access to the chats and asynchronous conferences, no interviews were completed and therefore it was not possible to follow up on interesting points. Data collected by colleagues speak to the importance of the orientation, which the current data set only begins to suggest.

Post-course communication with some students indicates the interactions that would have been found most interesting took place between individuals via personal email. Not only are researchers unlikely to be given access to personal email, but there is a strong sentiment that it is inappropriate to even ask for it. Students need at least one avenue of communication that they feel is secure.

Future work

Data analysis is hampered by the lack of a rubric for determining what makes a particular utterance a "strong" one. While the researchers don't rely heavily on counting utterances to gain insight into the class, we do feel we need a way to indicate that saying someone's name is not as powerful an expression of sense of community as expressing a minority opinion. The researchers hope to develop such a set of criteria and apply it to data from these same students in the upcoming semesters of their degree program.

Studying these new courses using data collection methods such as interviews and surveys will help to the researchers accomplish two goals. First, it may be possible to refine and validate the PSOC model for use in qualitative research of an online cohort, perhaps using the SCI itself to validate our analyses. Second, albeit may eventually be possible to correlate specific course structures and salient events to changes in the PSOC. This information can be used to inform the second round of design for the online program and, hopefully, have an impact on attrition and student satisfaction.

Conclusions

The psychological sense of community, as defined in McMillan and Chavis' (1986) model, appears to be a meaningful, well-established and powerful tool for the rigorous investigation of community. The model offers a lens through which to explore how a group of students perceives itself. Application of the sense of community to qualitative methods is in its infancy, but this model lends itself well to this type of investigation. Future work will help determine if the model is able to offer insight into real-world applications of course design and structures that may, in turn, affect attrition rates and student satisfaction.

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